

**FINAL PROJECT**  
**AUTOMATIC DOOR DAM PROTOTYPE BASED**  
**MICROCONTROLLER ATMEGA 16**

By: Dwi Utomo Budi Hartanto Safrudin  
09507131011

**ABSTRACT**

Writing of this final project aims to build a prototype system that functions to control the process of opening and closing dam's door automatically. Making these tools also to provide information on water levels in the dam.

Automatic door dam prototype based microcontroller and atmega 16 is a tool that designed specifically to simulate automatically dam doors. This tool will work in accordance with the conditions of the water level. When the water level go up, the door dam will open automatically dam the door will close when the water level drops. The method used in constructing the dam door prototype based automated ATmega 16 using the method of design that consists of several stages: (1) identification of requirements, (2) Needs Analysis, (3) design of hardware and software, (4) tool-making, (5) Testing Tool and (6) Operational Equipment. The hardware consists of (1) The minimum ATmega16 as the main controller, (2) water level sensor (water level control) as the water level detector, (3) and infrared light sensor photodiode as a detector height of the dam doors, (4) DC motors as driver door dam and (4) LCD as the viewer height and the height of the dam door.

Based on the results of testing that has been done, it can be concluded that a prototype tool based automatic door ATmega 16 dams can work well in accordance with the working principles designed. The performance of the tool is observed by looking at the condition of the sensor exposed to water. If the condition of the water in the dam go up to the maximum condition, then the motor will move "open" the door dam in stages according to water conditions in the tank. If the condition of the water in the dam down to the minimum, then the motor will move "close" the door dam in stages according to water conditions in the tank and the high information and high water doors will be displayed on the LCD. There is an average percentage error of 0.15%.

Keywords: Door dam, water level sensor, LCD, ATmega16